

Your grade: 100%

Next item →

1. The concrete crack images you've been working with are 227x227 `uint8` color images.

1 / 1 point

If each pixel of type `uint8` in each color plane is one byte, how large (in bytes) will each image be?

154587

✓ Correct

2. Consider saving one of the concrete crack images. Correctly order the resulting image files from smallest to largest file size.

1 / 1 point

- ☐ `imwrite(img, "img.png")`  
`imwrite(img, "img.jpg", "Quality", 0.8)`  
`imwrite(img, "img.jpg", "Quality", 70)`
- ☐ `imwrite(img, "img.jpg", "Quality", 70)`  
`imwrite(img, "img.jpg", "Quality", 0.8)`  
`imwrite(img, "img.png")`
- ☐ `imwrite(img, "img.png")`  
`imwrite(img, "img.jpg", "Quality", 70)`  
`imwrite(img, "img.jpg", "Quality", 0.8)`
- ☒ `imwrite(img, "img.jpg", "Quality", 0.8)`  
`imwrite(img, "img.jpg", "Quality", 70)`  
`imwrite(img, "img.png")`

✓ Correct

Feel free to try this for yourself on one of the concrete crack images. Can you see any differences in quality?

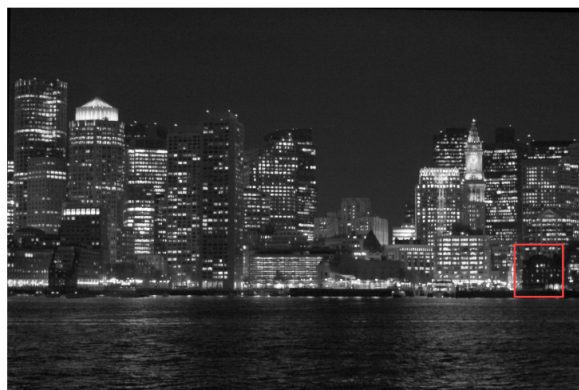


The next 2 questions 3-4 concern the image that you modified in this week's project (Adjusting a Dark and Rotated Image). In this week's project, you applied gamma correction to improve visibility in "boston night.jpg". Details that were previously hard to see are now much clearer.

3. Consider the building shown below (inside the red box). It was extremely difficult to see before gamma correction (top), but now can be easily spotted (bottom).

1 / 1 point

Open the gamma-adjusted image in the Image Viewer app. Use the "Measure Distance" tool to determine approximately how tall (in pixels) this building is.



✓ Correct

This measurement would be extremely difficult without gamma correction!

4. Assume you want to visualize the difference between the gamma corrected and rotated image and the original uint8 image. Which figure below correctly displays the difference between the two images?

1 / 1 point

☐



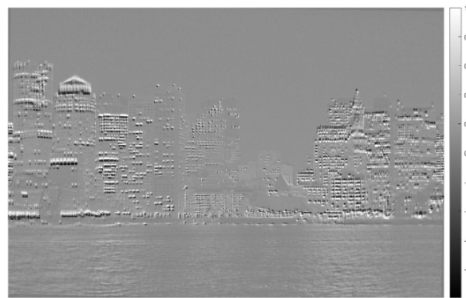
☐



☐



☒

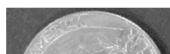


✓ Correct

This was obtained using `imshow((im2double(imgAdjusted) - im2double(imgGray)), [])`

5. How would you ensure that the eagle is oriented with its head at the top and feet at the bottom in the following coin image?

1 / 1 point





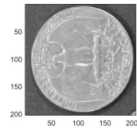
- ☐ `img = imflip(img);`
- ☐ `img = imrotate(img, 90);`
- ☐ `img = imflip(img, "right");`
- ☒ `img = imrotate(img, -90);`

✓ Correct



6. The quarter image from the last question has a resolution of 203x203. Which command would give you a cropped image of just the eagle's head?

1 / 1 point



- ☐ `imshow(img(90,:))`
- ☐ `imshow(img(40:70),img(85:115))`
- ☐ `imshow(1:203,1:90)`
- ☐ `imshow(img(90,55))`
- ☒ `imshow(img(85:115,40:70))`

✓ Correct

This is the only answer located on the center left of the image.

7. Camera exposure time is an important component of astrophotography.

1 / 1 point

Exposure time is stored as part of the "DigitalCamera" structure in an image's meta-data. Find the exposure time for "half moon.jpg". Enter your answer as a decimal.

For an example of extracting meta-data, see the "Exploring Image Compression" reading.

0.0167

✓ Correct

```
mooninfo = imfinfo("half moon.jpg");  
mooninfo.DigitalCamera.ExposureTime
```